IN THE CLAIMS:

1. (Currently Amended) A method of controlling rock drilling, the method comprising:

drilling rock with a rock drilling apparatus ~~comprising~~ including a carrier, a feeding beam, a rock drill movable with respect to the feeding beam, and a control unit for controlling the rock drilling,

providing a memory of the control unit with default settings for drilling,

measuring the operation of the apparatus during drilling, and adjusting the operating parameters of drilling to accomplish a desired control operation,

providing the operating system of the control unit with at least two simultaneously active control modes with different control strategies, and each control mode determining at least one criterion to be measured during drilling, a threshold value for a measurement result, and at least one adjustable operating parameter,

prioritising one control mode over the other modes, and

calculating, based on the measurement results, control values for the operating parameters to be adjusted in the control unit in order to automatically control the drilling such that the control strategy of the prioritised control mode is weighted.

2. (Original) A method according to claim 1, comprising:

providing the control unit with a user interface,

arranging an operating area of the shape of a plane geometrical polygon in the user interface,

selecting the operating point of the control by moving a control cursor in the operating area,

placing one control mode in each corner of the operating area, and

calculating a weighting coefficient for each control mode by means of the distance between the operating point and the corners.

3. (Original) A control system for a rock drilling apparatus comprising:

a carrier,

a feeding beam,

a rock drill movable with respect to the feeding beam,

a control unit provided with a user interface for controlling the drilling,

at least one sensor for measuring drilling operation,

and wherein the operating system is provided with at least two simultaneously active preformed control modes with different control strategies, and wherein each control mode determines at least one criterion to be measured during the drilling, a threshold value for a measurement result, and at least one adjustable operating parameter,

one control mode can be prioritised over the other modes, and

the control unit is arranged to automatically adjust, based on the measurement results, the operating parameters determined by the control modes such that the drilling result according to the prioritised control mode is weighted over the other control modes.

4. (Currently Amended) A control system according to claim 3, wherein
the user interface of the control unit ~~comprises~~ includes an operating area of the shape of a plane geometrical polygon,
one control mode is placed in each corner of the polygon,
the user interface ~~comprises~~ includes a control cursor whose location in the operating area is arranged to represent the currently selected operating point of the control, and
the control unit is arranged to calculate the weighting of each control mode depending on the distance from the operating point to the corners of the polygon.

5. (Currently Amended) A control system according to claim 4, wherein
the operating system ~~comprises~~ includes a triangular operating area.

6. (Original) A control system according to claim 5, wherein
the first corner of the triangular operating area is provided with a control mode optimising the penetration rate of drilling,
the second corner of the triangle is provided with a control mode optimising the straightness of the hole to be drilled, and

the third corner of the triangle is provided with a control mode optimising the service life of the drilling equipment.

7. (Currently Amended) A control system according to claim 3, wherein the control unit ~~comprises~~ includes a graphical user interface.